REMARKS

Claims 1-18 are allowed, Claims 19-31, 34, 37, 39-41, 44, 47, 49-52, 55, 58 and 60-63 are rejected under 35 U.S.C. § 103(a). Claims 32, 33, 35, 36, 38, 42, 43, 45, 46, 48, 53, 54, 56, 57 and 59 are objected to as being dependent upon a rejected claim. Claims 1 and 12 have been amended to more clearly and distinctly point out the invention and no new matter has been introduced. The new and amended claims are fully supported by the specification. For reasons set forth below, Applicants request that the rejections be withdrawn and the pending claims be allowed to issue.

Claims 1 and 12 have been amended to point out the claimed invention. They include the bitter taste inhibitors, adenosine monophosphates or the structural homologs of adenosine monophosphate, which inhibit bitter tastant mediated G-protein activation. In this regard, new claims 64-72 which depend from allowed Claim 1 and recite the claimed bitterness inhibitors adenosine monophosphate and structural homologs thereof.

The Examiner rejected Claims 19-31, 34, 37, 39-41, 44, 47, 49-52, 55, 58 and 60-63 under 35 U.S.C. 103(a) as being unpatentable over McLaughlin et al. in view of Naim et al., Ruiz-Avila et al., Spielman and Boughter et al.

Reconsideration is respectfully requested in view of this amendment.

Independent Claim 19 and Claims 20-25 have been canceled. Independent Claims 26 and 63 have been amended and now recite "where the test inhibitor is adenosine monophosphate or a structural homolog of adenosine monophosphate", as inhibitors of bitter tastant mediated G-protein activation, respectively. Applicants' assert that these claims are non-obvious over the references cited by the Examiner because the references only disclose that G-proteins, and in particular gustducin and transducin, are involved in the signal transduction of bitter taste. The inhibitors (i.e. adenosine monophosphate or a structural homolog of adenosine monophosphate) of bitter tastant mediated G-protein activation are not disclosed or suggested by the cited references.

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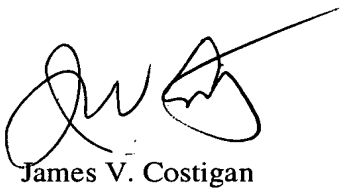
One skilled in the art could not have expected that adenosine monophosphate, or structural homologs thereof, could function as taste modifiers. In contrast, the prior art teaches that the level of AMP increases in response to a bitter tastant as a result of the activation of α-gustducin and α-transducin within the cell.

Claims 32, 33, 35, 36, 38, 42, 43, 45, 46, 48, 53, 54, 56, 57 and 59, which were not rejected on the prior art, have been rewritten in independent form including all the limitation of the allowed base claim and intervening claims.

In view of the foregoing discussion, applicant respectfully submits that the pending claims are allowable over the cited prior art. Allowance of the claims is therefore respectfully solicited.

An early and favorable action is earnestly solicited.

Respectfully submitted,



James V. Costigan
Registration No. 25,669

MAILING ADDRESS:

Hedman & Costigan, P.C.
1185 Avenue of the Americas
New York, NY 10036-2601
(212) 302-8989

MARKED UP COPY OF CLAIMS:

1. (twice amended) A method for identifying an inhibitor of bitter taste comprising (i) contacting a taste receptor with a G-protein, selected from the group consisting of transducin and gustducin, and a bitter tastant, under conditions suitable for activation of the G-protein by the bitter tastant, and measuring the level of G-protein activation; (ii) in a separate experiment, contacting a taste receptor with a G-protein selected from the group consisting of transducin and gustducin, the bitter tastant, and a test inhibitor under conditions suitable for activation of the G-protein by the bitter tastant, and measuring the level of G-protein activation, where the G-protein is the same as that used in part (i), and where the test inhibitor is adenosine monophosphate or a structural homolog of adenosine monophosphate; and then (iii) comparing the level of activation of the G-protein measured in part (i) with the level of activation of the G-protein measured in part (ii), wherein a lower level of activated G-protein in the presence of the test inhibitor has a positive correlation with an ability of the test inhibitor to inhibit the perception of a bitter taste associated with the tastant.

12. (twice amended) A method for identifying an inhibitor of bitter taste comprising (i) contacting, *in vitro*, a taste receptor with a solution comprising a G-protein selected from the group consisting of transducin and gustducin, and a bitter tastant, under conditions suitable for activation of the G-protein by the bitter tastant, and measuring the level of G-protein activation; (ii) in a separate experiment, contacting a taste receptor with a solution comprising a G-protein selected from the group consisting of transducin and gustducin, the bitter tastant, and a test inhibitor, and measuring the level of G-protein activation, where the G-protein is the same as that used in part (i), and where the test inhibitor is adenosine monophosphate or a structural homolog of adenosine monophosphate; and then (iii) comparing the level of activation of the G-protein measured in part (i) with the level of activation of the G-protein measured in part (ii), wherein a lower level of activated G-protein in the presence of the test inhibitor has a positive correlation with an ability of the test inhibitor to inhibit the perception of a bitter taste associated with the tastant.

26. (twice amended) A method for identifying an inhibitor of bitter taste *in vivo* comprising (i) contacting a taste receptor with a G-protein, selected from the group consisting of transducin and gustducin, and a bitter tastant, under conditions suitable for activation of the G-protein by the bitter tastant, and measuring the level of G-protein activation; (ii) in a separate experiment, contacting a taste receptor with a G-protein selected from the group consisting of transducin and gustducin, the bitter tastant, and a test inhibitor, and measuring the level of G-protein activation, where the G-protein is the same as that used in part (i), and where the test inhibitor is adenosine monophosphate or a structural homolog of adenosine monophosphate; and then (iii) comparing the level of activation of the G-protein measured in part (i) with the level of activation of the G-protein measured in part (ii), wherein a lower level of activated G-protein in the presence of the test inhibitor has a positive correlation with an ability of the test inhibitor to inhibit the perception of a bitter taste associated with the tastant.

27. (amended) [A] The method [for] of claim 26, wherein identifying [an] said inhibitors of bitter taste *in vivo* comprising (i) offering a test animal the choice of consuming either (a) a composition comprising a bitter tastant or (b) the composition comprising the bitter tastant as well as [a test] said bitter taste inhibitor; and (ii) comparing the amount of consumption of the composition according to (a) or (b), wherein greater consumption of the composition according to (b) has a positive correlation with an ability of [the test] said bitter taste inhibitor to inhibit the perception of bitter taste associated with the tastant.

28. (amended) The method of claim 26, where [the test] said bitter taste inhibitor was found to inhibit activation of a G-protein by the bitter tastant.

29. (amended) The method of claim 27, where [the test] said bitter taste inhibitor elicits the perception of a sweet taste.

30. (amended) A method of inhibiting a bitter taste resulting from contacting a taste tissue of a subject with a bitter tastant, comprising administering to the subject an effective amount of a bitterness inhibitor, wherein said bitterness inhibitor is adenosine monophosphate or a structural homolog of adenosine monophosphate.

40. (amended) A method of inhibiting s bitter taste of a composition, comprising incorporating, in the composition, an effective amount of a bitterness inhibitor, wherein said bitterness inhibitor is adenosine monophosphate or a structural homolog of adenosine monophosphate.

50. (amended) [A] The method of [producing the perception of a sweet taste by a subject comprising administering] claim 11, further comprising administering [,] to the subject, a composition comprising [a compound] said bitterness inhibitor that acts as a bitterness inhibitor in addition to eliciting a sweet taste.

51 (amended) [A] The composition of claim 50, comprising a bitter tastant and [a] one or more of said bitterness inhibitors [, where the bitterness inhibitor] is present at a concentration which inhibits bitter taste perception.

61. (amended) [A] The composition of claim 50, comprising a bitter tastant and [a] one or more of said bitterness inhibitors, [where the bitterness inhibitor] is present at a concentration which inhibits bitter taste perception and which elicits the perception of a sweet taste.

62. (amended) [A] The composition of claim 50, comprising [a] one or more of said bitterness inhibitor, [where the bitterness inhibitor] is present at a concentration which elicits the perception of a sweet taste.

63. (twice amended) A method for identifying a bitter tastant comprising (i) contacting a taste receptor with a G-protein, selected from the group consisting of transducin and gustducin, and a test tastant, under conditions suitable for activation of the G-protein by the taste tastant, and measuring the level of G-protein activation; (ii) in a separate experiment, contacting a taste receptor with a G-protein selected from the group consisting of transducin and gustducin, the test tastant, and a bitterness inhibitor, wherein said bitterness inhibitor is adenosine monophosphate or a structural homolog of adenosine monophosphate, and measuring the level of G-protein activation, where the G-protein is the same as that used in part (i), and then (iii) comparing the level of activation of the G-protein measured in part (i) with the level

of activation of the G-protein measured in part (ii), wherein a lower level of activated G-protein in the presence of [the] said bitterness inhibitor has a positive correlation with an ability of the test tastant to elicit the perception of a bitter taste.